

Amendments to the Claims

The following Listing of Claims replaces all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (withdrawn): A method of fabricating an image sensor, comprising:
forming a bottom antireflection coating over an exposed surface of an active image sensing device structure;

forming a color filter array on the bottom antireflection coating; and
substantially removing exposed portions of the bottom antireflection coating.

Claim 2 (withdrawn): The method of claim 1, wherein the bottom antireflection coating comprises a dyed organic film-forming material.

Claim 3 (withdrawn): The method of claim 1, wherein the bottom antireflection coating comprises a light-absorbing polymeric film-forming material.

Claim 4 (withdrawn): The method of claim 1, wherein the bottom antireflection coating has a thickness selected to improve an optical transmission characteristic of one or more colors of the color filter array.

Claim 5 (withdrawn): The method of claim 1, wherein the bottom antireflection coating is substantially transmissive to radiation in a wavelength range of about 400 nm to about 700 nm.

Claim 6 (withdrawn): The method of claim 1, wherein the color filter array comprises a plurality of colored photoresist structures.

Claim 7 (withdrawn): The method of claim 1, wherein exposed portions of the bottom antireflection coating are removed substantially by a plasma etch process.

Claim 8 (withdrawn): The method of claim 7, wherein the plasma etch process is a low-power buffered oxygen ash process.

Claim 9 (withdrawn): The method of claim 7, wherein the plasma etch process removes the bottom antireflection coating at a substantially higher etch rate than the color filter array.

Claim 10 (withdrawn): The method of claim 1, wherein the bottom antireflection coating forms a substantially continuous layer over the exposed surface of the active image sensing device structure before exposed portions of the bottom antireflection coating are substantially removed.

Claim 11 (withdrawn): The method of claim 1, wherein the bottom antireflection coating forms a protective barrier over metal structures at the exposed surface of the active image sensing device structure during formation of the color filter array.

Claim 12 (withdrawn): The method of claim 1, wherein the active image sensor device structure comprises a complementary metal-oxide-semiconductor (CMOS) image sensor.

Claim 13 (currently amended): An image sensor system, comprising:
an active image sensing device structure comprising an array of light sensing elements;

a color filter array comprising an array of color filters each disposed over a respective light sensing element, wherein light travels from each color filter to a respective light sensing element through a respective light transmission path substantially transmissive to radiation in a visible wavelength range; and

a bottom antireflection coating disposed in each light transmission path between the color filter array and ~~a surface of~~ the active image sensing device structure, wherein the bottom antireflection coating has a thickness less than approximately 200 nm.

Claim 14 (original): The system of claim 13, wherein the bottom antireflection coating comprises a dyed organic film-forming material.

Claim 15 (original): The system of claim 13, wherein the bottom antireflection coating comprises a light-absorbing polymeric film-forming material.

Claim 16 (original): The system of claim 13, wherein the bottom antireflection coating has a thickness selected to improve an optical transmission characteristic of one or more colors of the color filter array.

Claim 17 (original) The system of claim 13, wherein the bottom antireflection coating is substantially transmissive to radiation in a wavelength range of about 400 nm to about 700 nm.

Claim 18 (original): The system of claim 13, wherein the color filter array comprises a plurality of colored photoresist structures.

Claim 19 (original): The system of claim 13, wherein the bottom antireflection coating has a substantially higher plasma etch rate than the color filter array.

Claim 20 (original): The system of claim 13, wherein the active image sensor device structure comprises a complementary metal-oxide-semiconductor (CMOS) image sensor.

Claim 21 (canceled)

Claim 22 (currently amended): The system of claim 1 [[21]], wherein the bottom antireflection coating has a thickness of about 60 nm.

Claim 23 (currently amended): The system of claim 13, wherein the bottom antireflection coating is present only in regions directly under color filter array material.

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Page : 5 of 9

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Claim 24 (new): The system of claim 13, wherein the color filter array is formed directly on bottom antireflection coating material.